

**B.P.H.E. Society's**  
**Ahmednagar College, Ahmednagar**



Department of Statistics

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**CERTIFICATE**

Date: /06/2022

This is certify that partial fulfilment of curriculum T.Y.B.Sc. Student **Pawar Ashirvad** have successfully completed the project work in the statistics entitles "**Social Media Addiction**" prescribed by Savitribai Phule university during academic year 2021-2022.

**Project Guide:**

**Head of**  
**Department of Statistics**

**Examiner:**

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## Aim:-

- 1) Estimation of percentage of population addicted to social media
- 2) To Identification of the which factor affecting social media addiction
- 3) Testing of factors significantly affecting social media addiction
- 4) Testing whether of awareness significantly helps in redusing the social media addiction.

(Recommendation: Caught in the web Episode 1 by Sandeep Maheshwari.)

## Acknowledgement:

Our sincere thanks to all who helped us in making of the project and this report. We would like to extend our sincere thanks to Respected principal Dr. R. J. Barnabas, our professors and our parents for their overwhelming support and intense dedication towards this project.

We're thankful to our project guides Dr. MALATI C. YEOLA [H.O.D. (STATISTICS)], Mr. YOGESH R. YEWALE for their guidance and scholarly advice imparted throughout this project.

Lastly we would like to thank all those who directly or indirectly involved in completion of this project.

**A Project Report From :**

*Pawar Ashirvad Jalindar*

*Pawar Snehal Rajesh*

*Khan Kaynat Iqbal*

*Hajare Yash Shivaji*

*Khan Shifa Parvez*

## Declaration:

We declare that this project work was carried out by us, in the Department of Statistics, B.P.H.E. Society's Ahmednagar College, Ahmednagar under supervision of Dr. Malati Yeola and Prof. Yogesh Yewale , and that no previous submission for a degree of this college or elsewhere has been made. Related work by others which served as a source of knowledge has been duly acknowledged or referenced.

Place: Ahmednagar

Date: / 05 / 2022

Sr No	Names
1	Pawar Ashirvad Jalindar
2	Pawar Snehal Rajesh
3	Khan Kaynat Iqbal
4	Hajare Yash Shivaji
5	Khan Shifa Parvez

## Introduction:

### **Social Media Addiction:**

Social media addiction is a behavioral addiction that is defined by being overly concerned about social media, driven by an uncontrollable urge to log on to or use social media, and devoting so much time and effort to social media that it impairs other important life areas.

### **What Is Social Media Addiction?**

Checking and scrolling through social media has become an increasingly popular activity over the last decade. Although the majority of peoples' use of social media is non-problematic, there is a small percentage of users that become addicted to social networking sites and engage in excessive or compulsive use. In fact, psychologists estimate that as many as 5 to 10% of Americans meet the criteria for social media addiction today. Social media addiction is a behavioral addiction that is characterized as being overly concerned about social media, driven by an uncontrollable urge to log on to or use social media, and devoting so much time and effort to social media that it impairs other important life areas.

picture they may receive positive social feedback, which stimulates the brain to release dopamine, rewarding that behavior and perpetuating the social media habit Addictive social media use will look much like any other substance use disorder and may include mood modification (i.e., engagement in social media leads to a favorable change in emotional states), salience (i.e., behavioral, cognitive, and emotional preoccupation with social media), tolerance (i.e., ever-increasing use of social media over time), withdrawal symptoms (i.e., experiencing unpleasant physical and emotional symptoms when social media use is restricted or stopped), conflict (i.e., interpersonal problems ensue because of social media usage), and relapse (i.e., addicted individuals quickly revert back to their excessive social media usage after an abstinence period).

The phenomena of social media addiction can be largely attributed to the dopamine-inducing social environments that social networking sites provide. Social media platforms such as Facebook, Snapchat, and Instagram produce the same neural circuitry that is caused by gambling and recreational drugs to keep

consumers using their products as much as possible. Studies have shown that the constant stream of retweets, likes, and shares from these sites cause the brain's reward area to trigger the same kind of chemical reaction seen with drugs like Cocaine. In fact, neuroscientists have compared social media interaction to a syringe of dopamine being injected straight into the system.

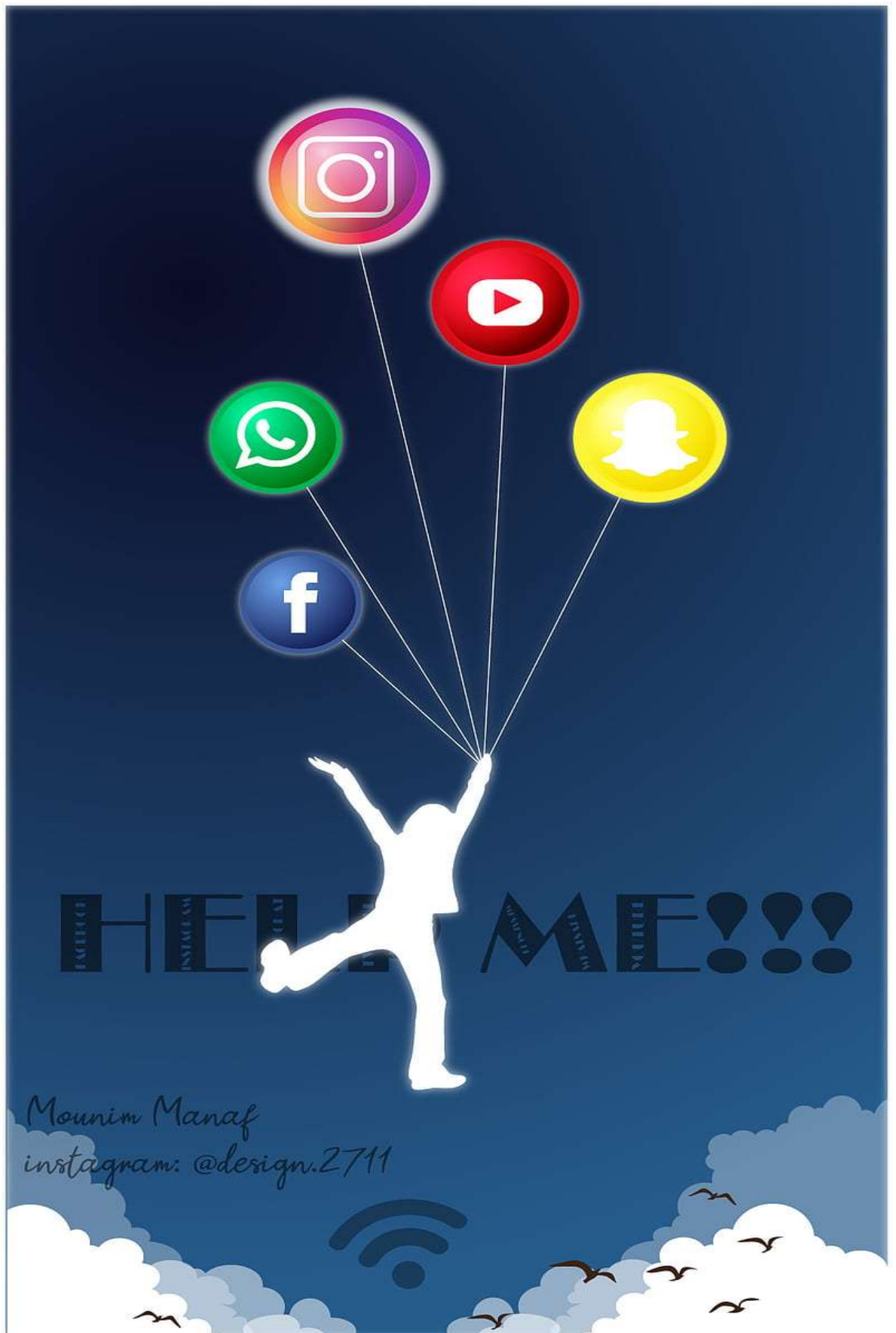
### **How Social Media Affects The Brain**

Due to the effect that it has on the brain, social media is addictive both physically and psychologically. According to a new study by Harvard University, self-disclosure on social networking sites lights up the same part of the brain that also ignites when taking an addictive substance. The reward area in the brain and its chemical messenger pathways affect decisions and sensations. When someone experiences something rewarding or uses an addictive substance, neurons in the principal dopamine-producing areas in the brain are activated and dopamine levels rise. Therefore, the brain receives a "reward" and associates the drug or activity with positive reinforcement.

This is observable in social media usage; when an individual gets a notification, such as a like or mention, the brain receives a rush of dopamine and sends it along reward pathways, causing the individual to feel pleasure. Social media provides an endless amount of immediate rewards in the form of attention from others for relatively minimal effort. The brain rewires itself through this positive reinforcement, making people desire likes, retweets, and emoticon reactions.

Another perpetuating factor of social media addiction is the fact that the reward centers of the brain are most active when people are talking about themselves. In the non-virtual world, it's estimated that people talk about themselves around 30 to 40% of the time; however, social media is all about showing off one's life and accomplishments — so people talk about themselves a staggering 80% of the time. When a person posts a





Mounim Manaf  
instagram: @design.2711

## **Statistical Tools:**

**Graphical and Diagrammatic representation of Data.**

**Pie Chart.**

**Multiple bar Diagram.**

## **Statistical Software Used:**

**R-Software.**

**Ms-Excel.**

## Data Collection and Methodology:

### (Raw / Primary Data)

The information and data used in this project was compiled through a social media detox questionnaire. The questionnaire was designed to determine participants' addiction. The questionnaire includes questions aimed at determining the age, gender, occupation and marital status of the participants.

We created 11 questions in the questionnaire. Then, in determining the detoxification, each question was graded according to its importance. We then set the criteria that if a person's total score goes beyond 30, he will be considered addicted. If the total score is between 20-30 then it will be considered neutral and if it is less than 20 then it will be considered as not addictive.

We have selected 40 individuals who will be tested to see if social media addiction can be reduced by creating awareness about social media. We personally checked their mobiles and reported how much time they spent on trending social media apps like Whatsapp, Instagram, YouTube, Facebook, Snapchat (if he / she is not using it for study purpose).

To minimize fluctuations we took note of their last 4 days time spends. Then we started raising awareness about social media.

To that end, we showed a motivational video in class and took note of the average time we spent on each app from the next day.

## **Questionnaire for Data Collection:**

**Name**

**Gender**

**Age**

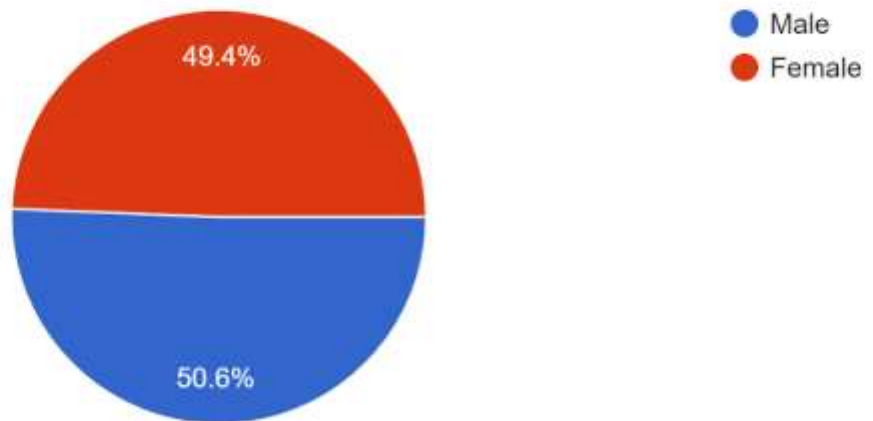
**Marital Status**

**Profession**

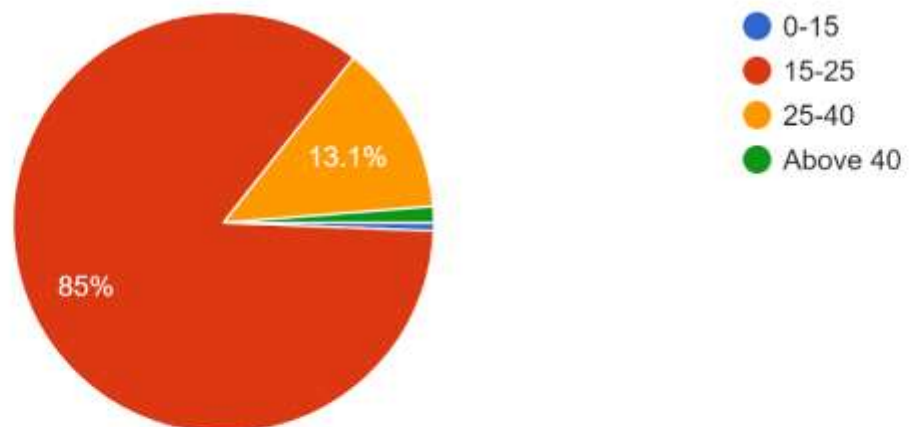
- 1) How long do you use mobile phone in 24 hours ?**
- 2) How much data do you use each day on social media apps?**
- 3) Do you check your phone in bed right after you wake up in the morning?**
- 4) When do you reply to your friends' messages ?**
- 5) Do you keep your phone with you at night ?**
- 6) Do you use your phone while eating ?**
- 7 ) How long can you stay without phone ?**
- 8) Do you watch suggested videos on youtube or elsewhere ?**
- 9) Do you check your phone while you go to bed ?**
- 10) Do you scroll through Instagram reels or any short videos ?**
- 11) Do you check your phone while waiting somewhere or standing in line ?**
- 12) Which apps do you use most ?**

## Data Visualization :

Gender  
160 responses

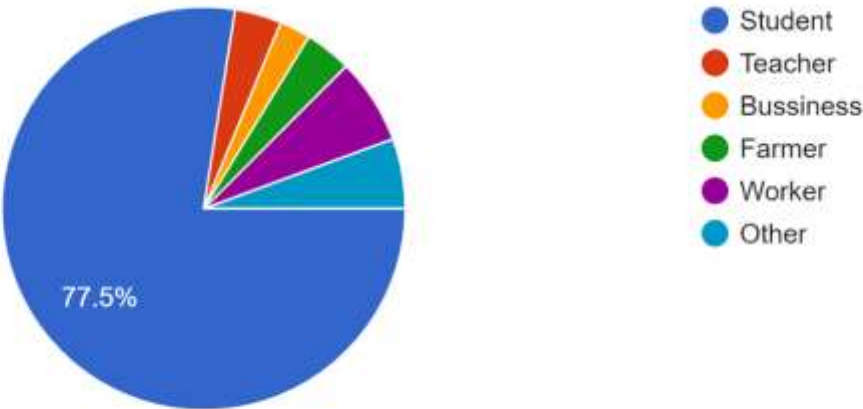


Age  
160 responses



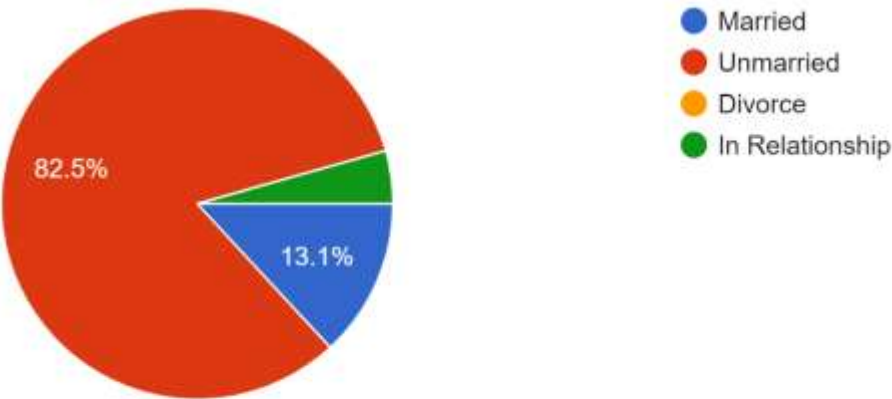
Profession

160 responses



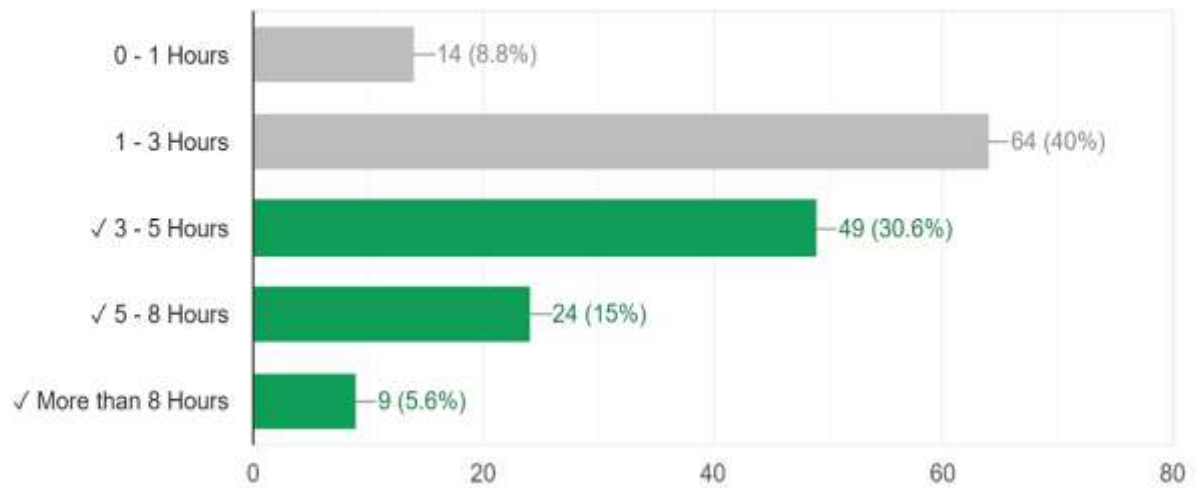
Marital status

160 responses



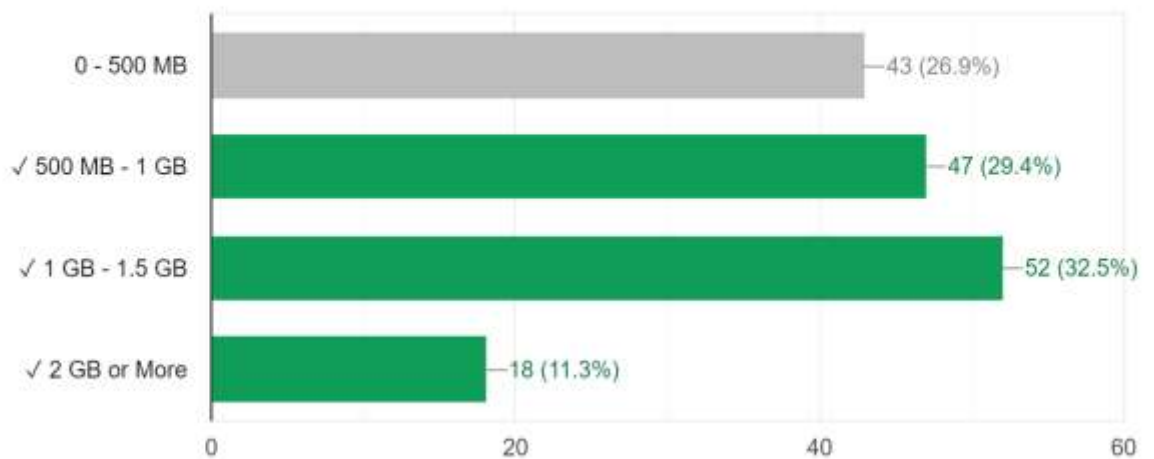
1) How long do you use mobile phone in 24 hours ? (तुम्ही २४ तासात किती वेळ मोबाईल फोन वापरता ? )

82 / 160 correct responses



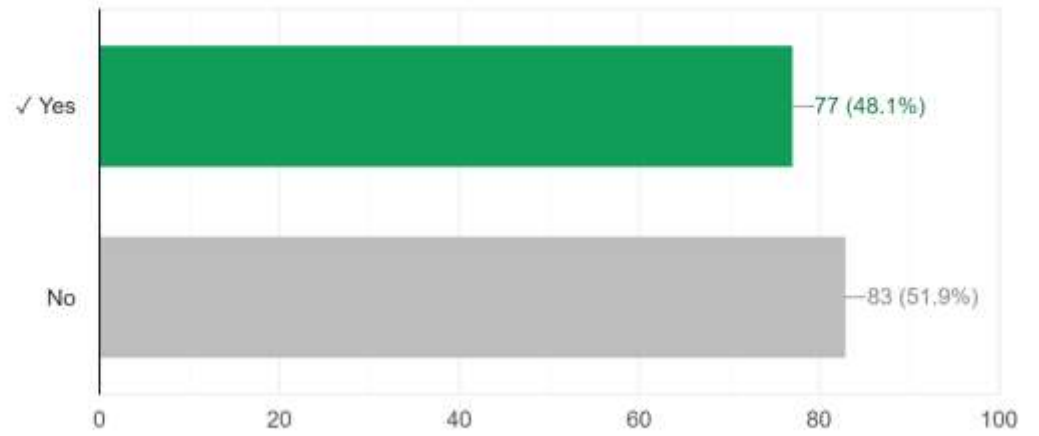
2)How much data do you use each day on social media apps? (सोशल मीडिया अॅप्सवर तुम्ही दररोज किती डेटा वापरता?)

117 / 160 correct responses



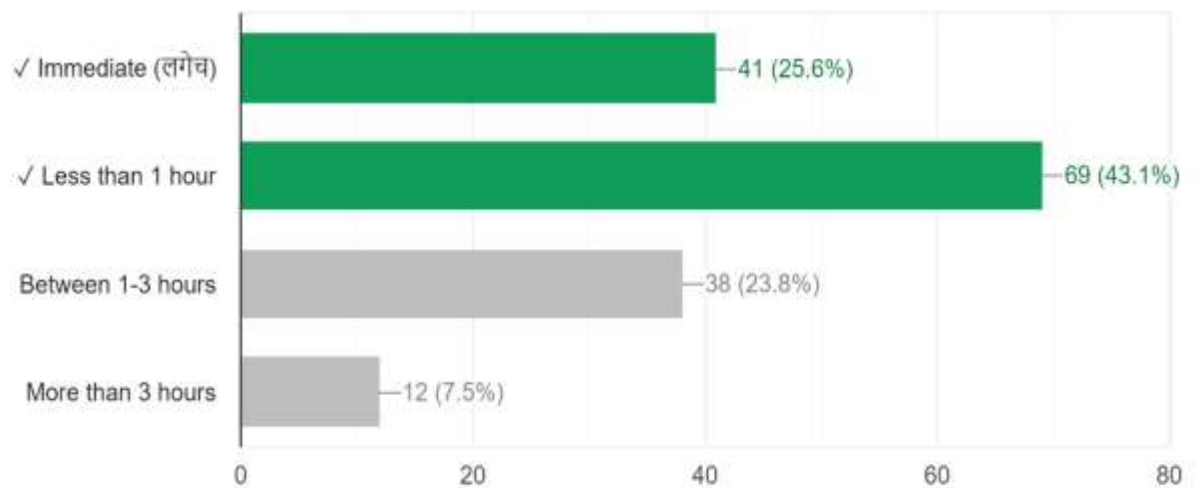
3 ) Do you check your phone in bed right after you wake up in the morning? ( तुम्ही सकाळी उठल्यानंतर लगेच बेडवरच तुमचा फोन तपासता का? )

77 / 160 correct responses



4 ) When do you reply to your friends' messages? ( तुम्ही तुमच्या मित्रांच्या मेसेजला कधी उत्तर देता? )

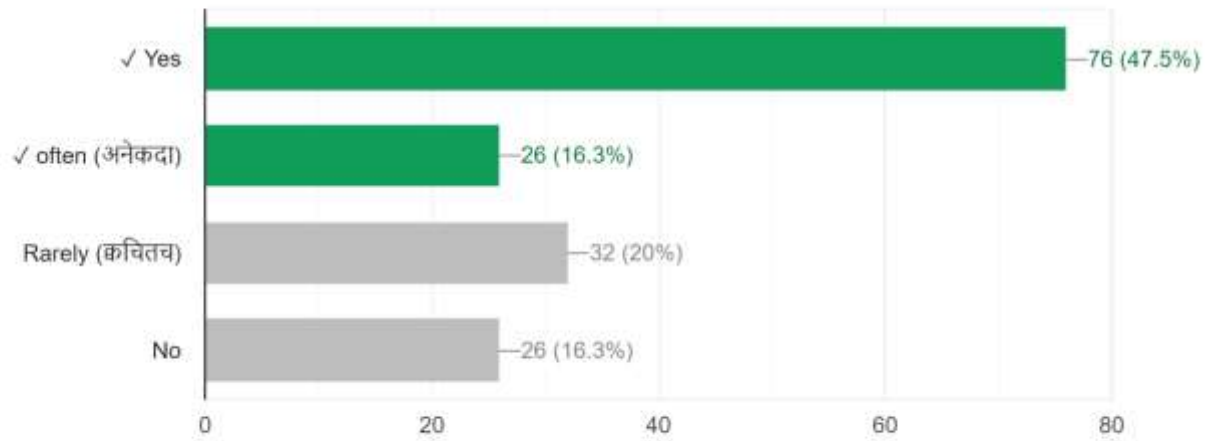
110 / 160 correct responses





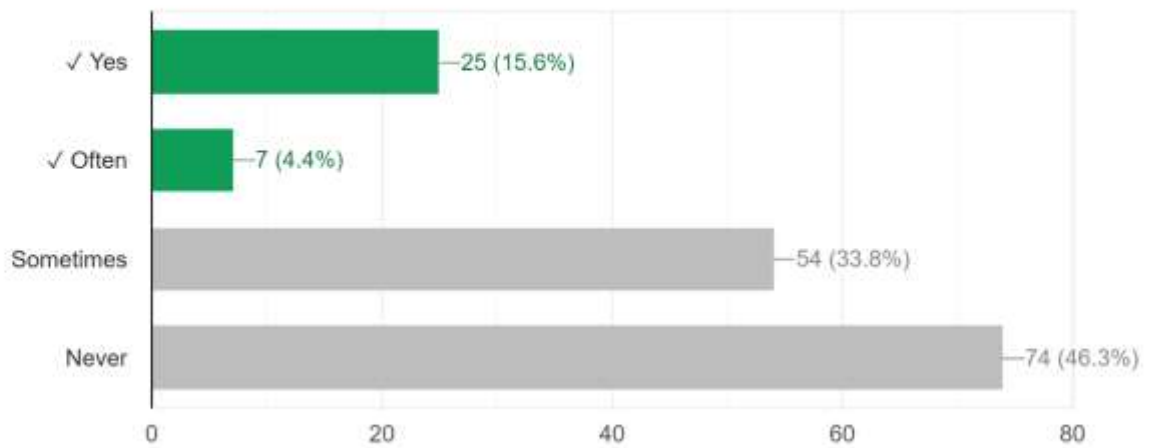
5) Do you keep your phone with you at night? (तुम्ही तुमचा फोन रात्री तुमच्या सोबत ठेवता का ?)

102 / 160 correct responses



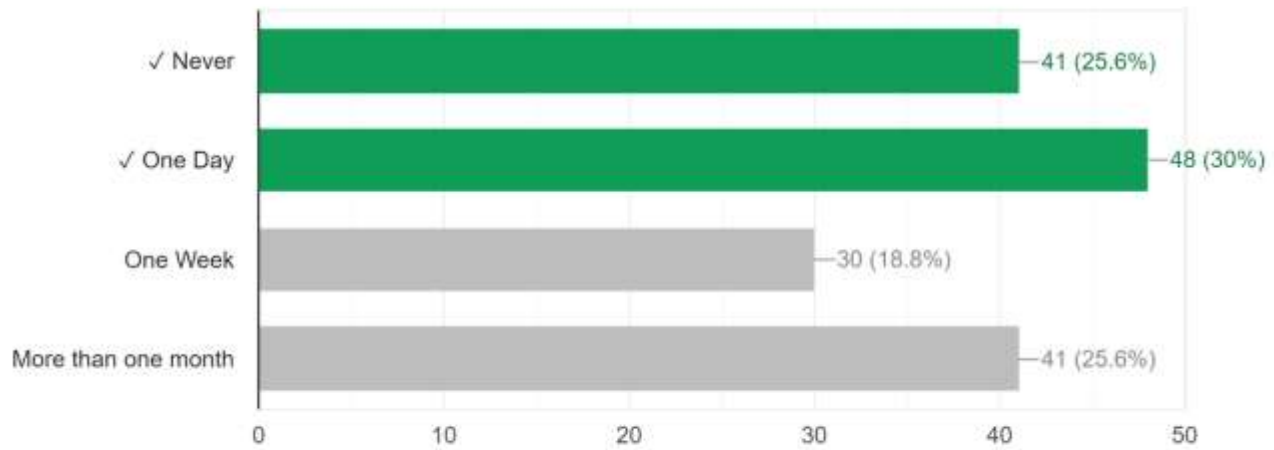
6) Do you use your phone while eating ? ( जेवताना तुम्ही तुमचा फोन वापरता का ? )

32 / 160 correct responses



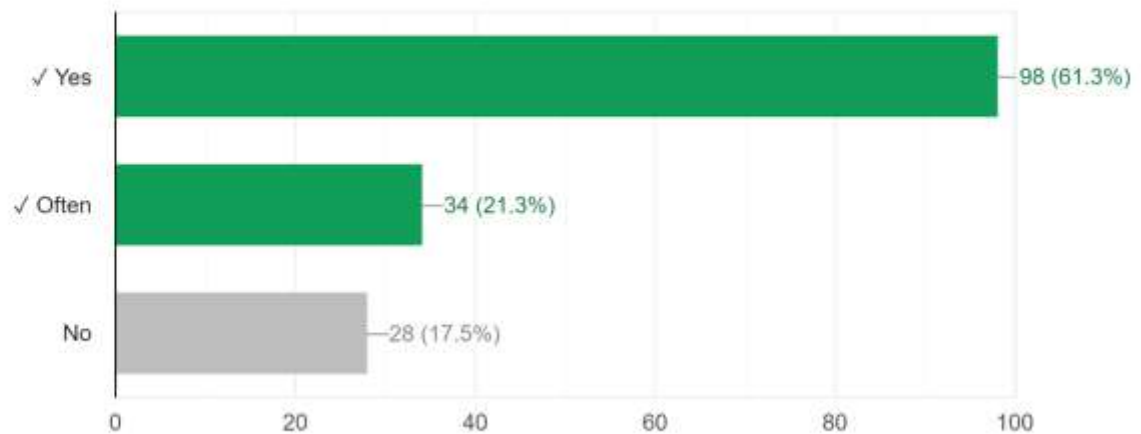
7 ) How long can you stay without phone ? ( तुम्ही फोनशिवाय किती काळ राहू शकता? )

89 / 160 correct responses



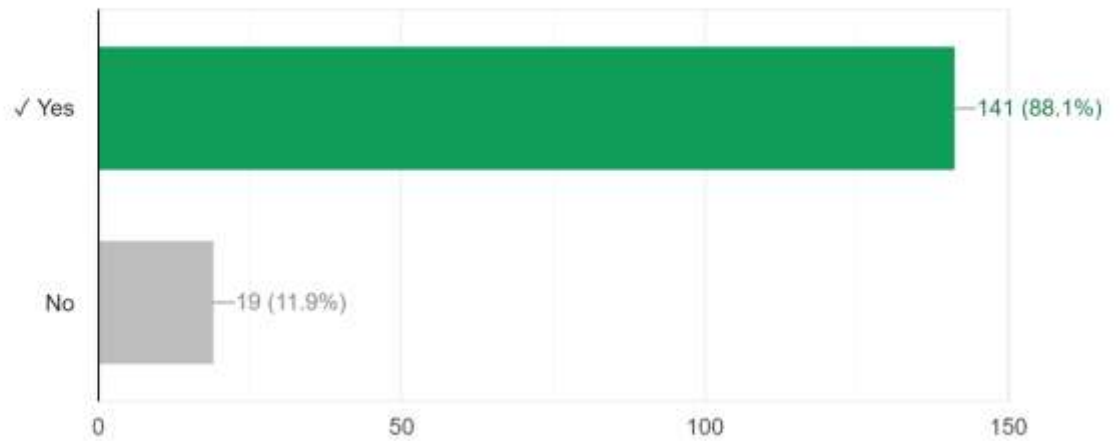
8) Do you watch suggested videos on youtube or elsewhere ? ( तुम्ही यूट्यूबवर किंवा इतरत्र सुचवलेले व्हिडिओ पाहता? )

132 / 160 correct responses



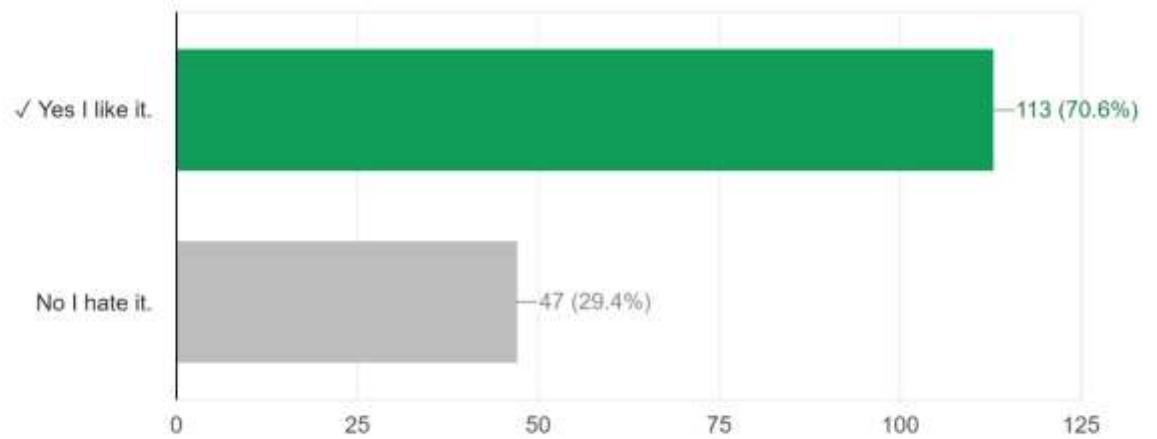
9) Do you check your phone while you go to bed ? ( तुम्ही झोपायला जात असताना तुमचा फोन तपासता का ? )

141 / 160 correct responses



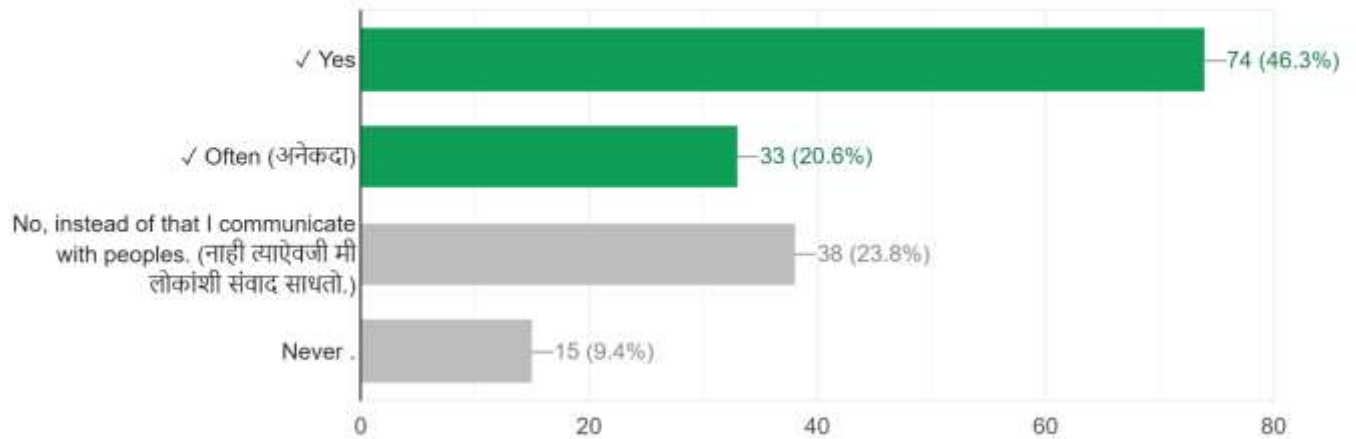
10 ) Do you scroll through Instagram reels or any short videos? तुम्ही स्करोल करून इंस्टाग्राम रील्स किंवा कोणतेही छोटे व्हिडिओ पाहता का ? )

113 / 160 correct responses



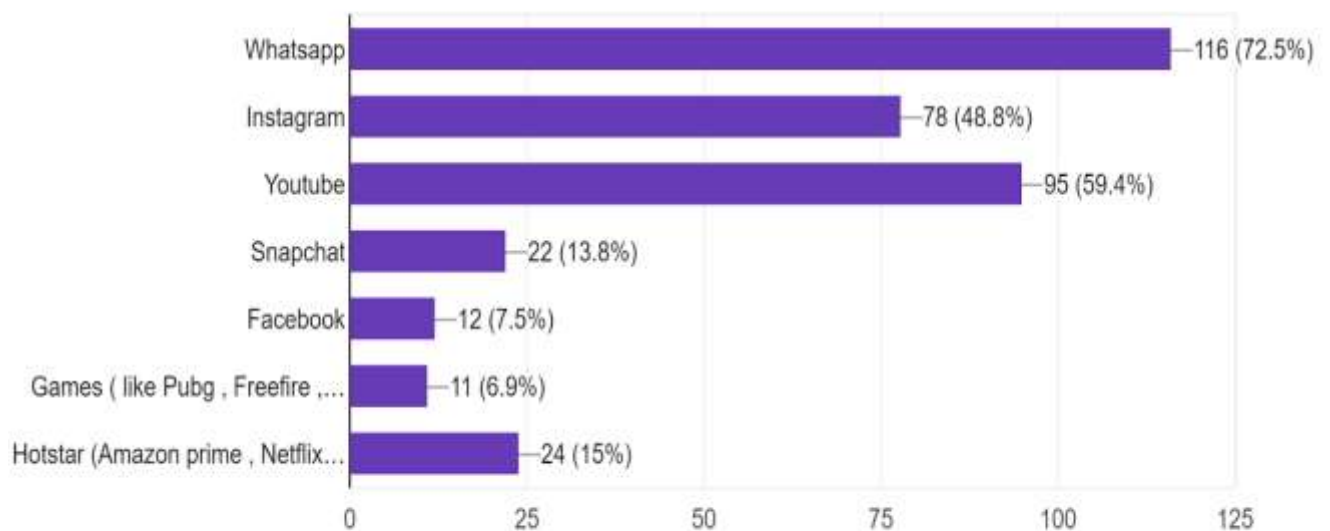
11 ) Do you check your phone while waiting somewhere or standing in line? ( तुम्ही कुठेतरी वाट पाहत असताना किंवा रांगेत उभे असताना तुमचा फोन तपासता का ? )

107 / 160 correct responses



Which apps do you use most ? ( तुम्ही कोणते ॲप्स सर्वाधिक वापरता ? )

160 responses



## Test for Independence of Mobile Addiction & Gender :

$H_0$ : Mobile addiction is independent of Gender.

$H_1$ : Mobile addiction is depend on Gender.

	Addicted	Neutral	Not Addicted	Total
Male	48	21	12	81
Female	44	23	12	79
Total	92	44	24	160

```
x=c(48,44,21,23,12,12)
```

```
m=matrix(x,nrow=2,ncol=3)
```

```
m
```

```
chisq.test(m)
```

### Output:

```
> X=c(48,21,12,44,23,12)
```

```
> m=matrix(x,nrow=2,ncol=3)
```

```
> m
```

```
  [,1] [,2] [,3]
```

```
[1,] 48 12 23
```

```
[2,] 21 44 12
```

```
> x=c(48,44,21,23,12,12)
```

```
> m=matrix(x,nrow=2,ncol=3)
```

```
> m
```

```
  [,1] [,2] [,3]
```

```
[1,] 48 21 12
```

```
[2,] 44 23 12
```

```
> chisq.test(m)
```

### Pearson's Chi-squared test

data: m

X-squared = 0.23986, df = 2, p-value = 0.887

**Interpretation:** Since p-value > 0.05 implies that mobile addiction May be independent of gender.

### Test for Independence of Mobile Addiction & Age:

$H_0$ : Mobile addiction is independent of Age.

$H_1$ : Mobile addiction is depend on Age.

	Addicted	Neutral	Not Addicted	Total
Age Bet'n 15-25	77	39	20	136
Age Above 25	15	5	4	24
	92	44	24	160

```
x=c(77,15,39,5,20,4)
```

```
m=matrix(x,nrow=2,ncol=3)
```

```
m
```

```
chisq.test(m)
```

```
> x=c(77,15,39,5,20,4)
```

```
> m=matrix(x,nrow=2,ncol=3)
```

```
> m
```

```
 [,1] [,2] [,3]
```

```
[1,] 77 39 20
```

```
[2,] 15 5 4
```

```
> chisq.test(m)
```

Pearson's Chi-squared test

data: m

X-squared = 0.63138, df = 2, p-value = 0.7293

Warning message:

In chisq.test(m) : Chi-squared approximation may be incorrect.

**Interpretation:** Since p-value > 0.05 implies that mobile Addiction may be independent of Age.

### Test for Independence of Mobile Addiction & Profession:

$H_0$ : Mobile addiction is independent of Profession.

$H_1$ : Mobile addiction is depend on Profession.

	Addicted	Neutral	Not Addicted	Total
Student	70	35	19	124
Other	22	9	5	36
Total	92	44	24	160

```
x=c(70, 22,35,9,19,5)
```

```
m=matrix(x,nrow=2,ncol=3)
```

```
m
```

```
chisq.test(m)
```

### Output:

```
> x=c(70, 22,35,9,19,5)
```

```
> m=matrix(x,nrow=2,ncol=3)
```

```
[,1] [,2] [,3]
[1,] 70 35 19
[2,] 22 9 5
> chisq.test(m)

Pearson's Chi-squared test

data: m
X-squared = 0.24915, df = 2, p-value = 0.8829
```

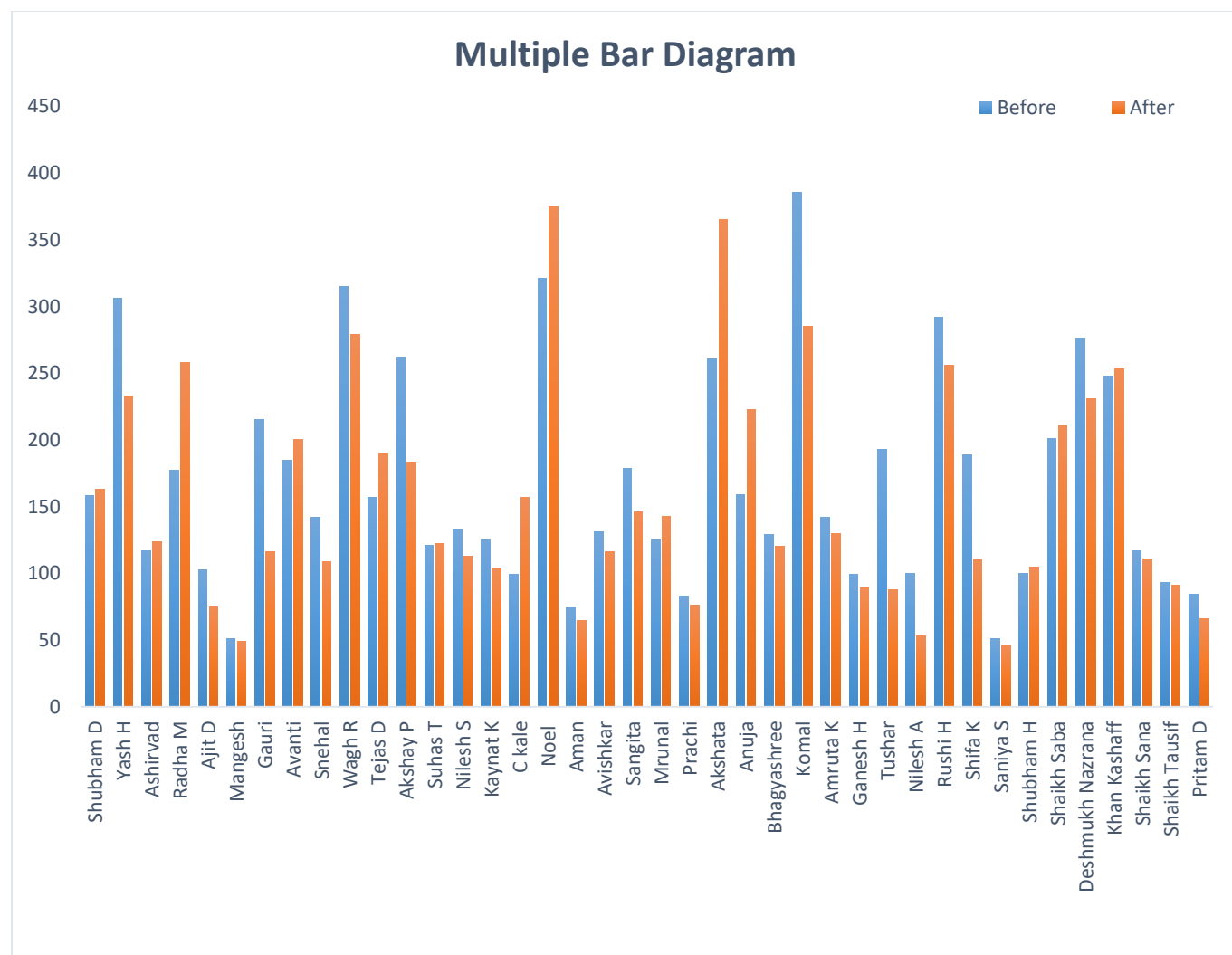
**Interpretation:** Since  $p\text{-value} > 0.05$  implies that mobile Addiction may be independent of Profession.



Sr.No.	Name	Whatsapp	Insta	Before Youtube	Snap	FB	Total
1	Shubham D	28	65	56	9	-	158
2	Yash H	18	257	18	10	3	306
3	Ashirvad	32	12	68	-	5	117
4	Radha M	78	58	34	7	-	177
5	Ajit D	28	50	25	-	-	103
6	Mangesh	18	-	31	-	2	51
7	Gauri	43	-	160	8	4	215
8	Avanti	21	120	36	8	-	185
9	Snehal	31	13	98	-	-	142
10	Wagh R	76	93	143	3	-	315
11	Tejas D	15	15	124	-	3	157
12	Akshay P	13	119	120	10	-	262
13	Suhas T	25	55	41	-	-	121
14	Nilesh S	38	63	32	-	-	133
15	Kaynat K	35	-	91	-	-	126
16	C kale	31	51	10	7	-	99
17	Noel	5	103	212	1	-	321
18	Aman	26	-	48	-	-	74
19	Avishkar	29	-	102	-	-	131
20	Sangita	94	18	3	13	51	179
21	Mrunal	70	10	7	39	-	126
22	Prachi	44	9	30	-	-	83
23	Akshata	79	150	30	2	-	261
24	Anuja	58	71	29	1	-	159
25	Bhagyashree	91	-	38	-	-	129
26	Komal	148	141	85	12	-	386
27	Amruta K	30	71	41	-	-	142
28	Ganesh H	31	52	16	-	-	99
29	Tushar	44	6	129	-	14	193
30	Nilesh A	12	32	7	-	49	100
31	Rushi H	13	31	236	-	12	292
32	Shifa K	21	87	77	4	-	189
33	Saniya S	17	30	2	2	-	51
34	Shubham H	13	31	31	-	25	100
35	Shaikh Saba	40	135	18	8	-	201
36	Deshmukh Nazrana	30	90	150	-	6	276
37	Khan Kashaff	25	195	28	-	-	248
38	Shaikh Sana	15	-	93	-	9	117
39	Shaikh Tausif	24	-	6	-	63	93
40	Pritam D	-	62	15	7	-	84

Sr.No.	Name	Whatsapp	Insta	After			Total	D
				Youtube	Snap	FB		
1	Shubham D	30	61	62	10	-	163	-5
2	Yash H	38	164	14	-	17	233	73
3	Ashirvad	25	29	70	-	-	124	-7
4	Radha M	112	73	66	7	-	258	-81
5	Ajit D	32	5	38	-	-	75	28
6	Mangesh	21	-	25	-	3	49	2
7	Gauri	57	5	47	-	7	116	99
8	Avanti	31	128	39	2	-	200	-15
9	Snehal	78	30	1	-	-	109	33
10	Wagh R	71	86	120	2	-	279	36
11	Tejas D	33	10	145	-	2	190	-33
12	Akshay P	26	95	53	9	-	183	79
13	Suhas T	32	48	42	-	-	122	-1
14	Nilesh S	25	60	28	-	-	113	20
15	Kaynat K	48	-	56	-	-	104	22
16	C kale	36	109	3	9	-	157	-58
17	Noel	30	212	132	1	-	375	-54
18	Aman	25	-	40	-	-	65	9
19	Avishkar	25	-	91	-	-	116	15
20	Sangita	71	12	10	15	38	146	33
21	Mrunal	89	22	2	30	-	143	-17
22	Prachi	40	8	28	-	-	76	7
23	Akshata	138	147	73	7	-	365	104
24	Anuja	65	87	70	1	-	223	-64
25	Bhagyashree	111	-	9	-	-	120	9
26	Komal	141	111	31	2	-	285	101
27	Amruta K	26	76	28	-	-	130	12
28	Ganesh H	20	46	20	1	2	89	10
29	Tushar	9	37	27	1	14	88	105
30	Nilesh A	9	10	11	2	21	53	47
31	Rushi H	15	26	201	-	14	256	36
32	Shifa K	38	67	4	1	-	110	79
33	Saniya S	15	28	1	2	-	46	5
34	Shubham H	10	51	25	-	19	105	-5
35	Shaikh Saba	38	147	15	11	-	211	-10
36	Deshmukh Nazrana	24	70	132	-	5	231	45
37	Khan Kashaff	21	201	31	-	-	253	-5
38	Shaikh Sana	11	-	90	-	10	111	6
39	Shaikh Tausif	24	-	8	-	59	91	2
40	Pritam D	-	52	9	5	-	66	18

## Caught in the web Episode 1 for Creating Awareness about Social Media :



## Test for Normality:

$H_0$ : Data is normally Distributed .

$H_1$ : Data is not normally Distributed .

```
x=c(-5,73,-7,-81,28,2,99,-15,33,36,-33,79,-1,20,22,-58,-54,9,15,33,-17,7,-14,-  
64,9,101,12,10,105,47,36,79,5,-5,-10,45,-5,6,2,18)
```

x

```
shapiro.test(x)
```

### Output:

```
> shapiro.test(x)
```

Shapiro-Wilk normality test

data: x

W = 0.95794, p-value = 0.1423

**Conclusion:** Since p-value > 0.05 implies that data may be normally distributed.

## Paired t Test :

$H_0: \mu_d = 0$ .

$H_1: \mu_d > 0$ .

```
x=c(158,306,117,177,103,51,215,185,142,315,157,262,121,133,126,99,321,74,  
131,179,126,83,261,159,129,386,142,99,193,100,292,189,51,100,201,276,248,  
117,93,840)
```

```
y=c(163,233,124,258,75,49,116,200,109,279,190,183,122,113,104,157,375,65,  
116,146,143,76,365,223,120,285,130,89,88,53,256,110,46,105,211,231,253,11  
1,91,66)
```

```
> t.test(x,y,paired=T,conf.level=0.95,alt="g")
```

## Output:

### Paired t-test

```
>
y=c(163,233,124,258,75,49,116,200,109,279,190,183,122,113,104,157,375,65,
116,146,143,76,365,223,120,285,130,89,88,53,256,110,46,105,211,231,253,11
1,91,66)
> x
[1] 158 306 117 177 103 51 215 185 142 315 157 262 121 133 126 99 321 74
[19] 131 179 126 83 261 159 129 386 142 99 193 100 292 189 51 100 201 276
[37] 248 117 93 840
> y
[1] 163 233 124 258 75 49 116 200 109 279 190 183 122 113 104 157 375 65
[19] 116 146 143 76 365 223 120 285 130 89 88 53 256 110 46 105 211 231
[37] 253 111 91 66
> t.test(x,y,paired=T,conf.level=0.95,alt="g")
```

### Paired t-test

data: x and y

t = 1.5026, df = 39, p-value = 0.0705

alternative hypothesis: true difference in means is greater than 0

95 percent confidence interval:

( -3.724535 ,  $\infty$  )

sample estimates:

mean of the differences

30.7

**Interpretation:** Since p-value > 0.05 implies that there is no difference in means. i.e. Treatment may not be effective.

>

### Alternative way ( Wilcoxon Signed Rank Test ):

```
d=c(-5,73,-7,-81,28,2,99,-15,33,36,-33,79,-1,20,22,-58,-54,9,15,33,-17,7,-14,-64,9,101,12,10,105,47,36,79,5,-5,-10,45,-5,6,2,18)
```

```
d
```

```
wilcox.test(d,mu=0,alter="greater")
```

### Output :

```
> d=c(-5,73,-7,-81,28,2,99,-15,33,36,-33,79,-1,20,22,-58,-54,9,15,33,-17,7,-14,-64,9,101,12,10,105,47,36,79,5,-5,-10,45,-5,6,2,18)
```

```
> d
```

```
[1] -5 73 -7 -81 28 2 99 -15 33 36 -33 79 -1 20 22 -58 -54
```

```
[18] 9 15 33 -17 7 -14 -64 9 101 12 10 105 47 36 79 5 -5
```

```
[35] -10 45 -5 6 2 18
```

```
> wilcox.test(d,mu=0,alter="greater")
```

Wilcoxon signed rank test with continuity correction

data: d

V = 569, p-value = 0.01655

alternative hypothesis: true location is greater than 0

Warning message:

In wilcox.test.default(d, mu = 0, alter = "greater") :

cannot compute exact p-value with ties

>

**Interpretation:** Since p-value > 0.01 implies that there is no difference in means.

i.e. Treatment may not be effective.

## # Fitting of Multiple Logistic Regression Model :

```
data=read.csv(file.choose(),header=T)
```

```
data
```

```
model=glm(Y~X1+X2+X3+X4+X5+X6+X7+X8,data=data)
```

```
model
```

```
summary(model)
```

Y	Score / Dependent Variable
X <sub>1</sub>	Gender
X <sub>2</sub>	Marital Status
X <sub>3</sub>	Daily Data Use
X <sub>4</sub>	Use mobile right after wake up in the morning.
X <sub>5</sub>	Use Mobile While Eating
X <sub>6</sub>	Watch Suggested Videos
X <sub>7</sub>	Check Mobile at Night
X <sub>8</sub>	Scrolling for Short videos

## Output :

```
> data=read.csv(file.choose(),header=T)
```

```
> data
```

Sr. No.	Y	X1	X2	X3	X4	X5	X6	X7	X8
1	1	1	1	1	1	1	1	1	0
2	0	0	1	0	0	1	1	0	0
3	1	1	1	1	0	1	1	1	1
4	0	1	1	0	1	0	0	0	0
5	1	1	1	1	1	0	1	1	1
6	1	0	1	1	1	0	1	1	0
7	1	0	1	1	0	0	1	1	1
8	1	1	1	1	1	0	1	1	0
9	1	0	1	1	0	0	1	1	1
10	1	1	1	1	1	1	1	1	1



11	0	1	1	1	0	0	1	0	1
12	0	1	1	1	1	0	1	1	0
13	1	1	1	1	1	0	1	1	1
14	1	0	1	1	1	0	1	1	1
15	1	1	1	1	0	0	1	1	1
16	1	0	1	1	1	1	1	1	1
17	1	1	0	1	1	0	1	1	1
18	1	0	1	1	1	0	1	1	0
19	1	1	1	1	0	0	1	1	1
20	1	1	1	1	1	0	1	1	1
21	0	0	1	1	0	0	0	1	1
22	0	1	1	0	0	0	1	1	1
23	1	0	1	1	0	0	1	1	1
24	1	0	1	1	1	0	1	1	1
25	1	0	1	1	0	0	1	1	1
26	0	1	1	1	0	0	0	1	0
27	0	1	0	1	0	0	1	0	0
28	0	0	1	1	0	0	1	1	1
29	0	1	1	1	0	0	1	1	1
30	1	1	1	1	1	0	1	1	1
31	0	0	1	0	0	0	1	1	1
32	1	1	1	1	1	0	1	1	1
33	0	1	1	0	0	1	1	1	0
34	1	1	1	1	0	0	1	1	0
35	0	0	1	1	0	0	1	1	0
36	1	1	1	1	1	0	1	1	1
37	1	0	1	1	1	0	0	1	1
38	1	1	1	0	1	1	1	1	1
39	0	0	1	1	0	0	0	1	0
40	0	0	1	1	0	0	1	1	1
41	1	1	1	0	1	1	1	1	1
42	1	1	1	1	1	1	1	1	0
43	1	1	1	1	0	0	1	1	1
44	1	0	0	1	1	0	1	1	1
45	0	0	1	0	0	0	1	1	1
46	0	1	1	1	0	0	0	1	0
47	1	1	1	0	1	1	1	1	0
48	1	1	1	1	0	0	1	1	1
49	0	1	1	1	1	0	0	1	1
50	1	1	0	1	1	1	1	1	1
51	1	1	1	1	0	0	1	1	1
52	0	0	1	0	1	0	1	0	0
53	0	1	1	1	0	0	1	0	1
54	0	1	1	1	0	0	1	0	1

55	0	1	1	1	0	0	0	1	1
56	1	0	1	1	1	1	1	1	1
57	0	1	1	0	0	0	1	1	1
58	0	1	1	0	0	0	1	1	0
59	0	1	1	0	1	0	0	1	0
60	0	1	1	1	0	0	1	0	1
61	0	0	0	0	0	0	0	0	0
62	0	1	1	0	0	0	0	1	1
63	1	1	1	1	1	0	1	1	1
64	0	0	1	1	0	0	1	1	1
65	0	0	1	1	1	1	1	1	0
66	1	0	1	1	1	0	1	1	0
67	0	0	1	0	0	0	0	1	0
68	0	0	1	0	0	0	1	1	1
69	0	0	1	0	0	0	0	1	0
70	0	1	1	1	1	0	0	0	0
71	1	1	1	1	0	0	1	1	1
72	0	1	1	1	0	0	0	1	0
73	0	1	1	1	1	0	0	1	1
74	0	0	1	1	0	0	1	0	1
75	1	1	1	1	1	0	1	1	1
76	1	1	1	1	0	0	1	1	1
77	1	0	1	1	0	0	1	1	1
78	0	1	1	0	0	0	1	1	1
79	0	1	1	1	0	0	1	1	0
80	1	0	1	1	0	0	1	0	1
81	1	0	1	1	0	0	1	1	1
82	1	1	1	1	1	0	1	1	1
83	1	1	1	1	1	0	1	1	1
84	1	1	1	1	1	0	0	1	1
85	0	0	1	0	0	1	1	1	0
86	0	0	1	0	0	0	1	0	1
87	1	1	1	0	1	0	1	1	1
88	1	0	1	1	0	0	1	1	1
89	1	0	1	1	1	1	1	1	1
90	1	1	1	1	1	1	1	1	1
91	1	1	1	1	1	0	1	1	1
92	0	1	1	1	0	0	0	1	1
93	1	0	0	0	0	1	1	1	1
94	1	1	1	1	1	0	1	1	1
95	0	0	1	0	0	0	0	1	0
96	1	0	1	1	0	0	1	1	1
97	1	0	1	1	1	1	1	1	1
98	1	0	1	1	0	0	1	1	1

99	1	0	1	1	1	0	1	1	1
100	0	0	1	1	0	0	1	0	0
101	1	0	1	1	1	0	1	1	1
102	0	1	1	0	1	0	1	1	1
103	0	0	1	0	0	0	1	1	0
104	1	1	1	1	1	1	1	1	1
105	1	1	1	1	1	0	1	1	1
106	1	0	1	1	0	0	1	1	1
107	0	1	0	0	0	0	1	1	1
108	1	1	1	1	0	0	1	1	1
109	1	1	1	1	1	0	1	1	1
110	1	1	1	1	1	0	1	1	1
111	1	0	1	1	1	0	1	1	1
112	0	1	1	0	0	1	0	1	1
113	1	1	1	1	1	1	1	1	1
114	0	0	1	1	0	0	1	1	1
115	1	0	1	1	1	0	1	1	0
116	0	1	1	1	1	0	0	1	0
117	0	1	1	1	0	0	0	1	0
118	0	0	1	0	0	0	0	0	0
119	1	0	1	1	1	0	0	1	1
120	1	1	0	1	1	1	1	1	1
121	0	0	1	0	0	0	1	1	1
122	0	0	1	1	0	0	1	1	1
123	1	0	0	1	1	0	1	1	1
124	0	0	1	0	1	0	1	1	0
125	1	1	1	1	1	0	1	1	0
126	0	0	1	1	0	0	1	1	1
127	0	1	0	1	0	1	1	1	0
128	1	0	1	0	1	0	1	1	1
129	0	1	1	0	0	0	0	0	0
130	1	0	0	1	0	0	1	1	1
131	1	0	1	1	1	0	1	1	0
132	0	1	1	0	1	0	1	1	0
133	1	0	1	0	1	0	1	1	1
134	1	1	1	1	1	0	1	1	0
135	0	0	0	0	0	0	1	1	1
136	1	0	1	1	1	0	1	1	1
137	1	0	0	1	0	0	1	1	1
138	1	0	0	1	0	0	1	1	1
139	0	0	1	1	0	0	1	1	1
140	1	0	0	1	1	0	1	1	1
141	1	1	1	0	1	1	1	1	1
142	1	0	1	1	1	1	1	1	1

143	0	0	0	0	0	0	1	1	1
144	0	0	1	0	0	0	0	1	0
145	1	0	1	1	1	1	0	1	0
146	0	1	0	1	0	0	1	0	0
147	1	1	0	1	1	0	1	0	1
148	1	0	0	0	1	0	1	1	1
149	0	0	1	1	0	0	0	0	0
150	1	0	1	1	0	1	1	1	1
151	1	0	1	0	1	1	1	1	1
152	1	1	1	1	1	1	1	1	1
153	1	0	1	1	1	1	1	1	1
154	1	1	1	1	0	0	1	1	1
155	0	0	0	0	0	0	1	1	1
156	1	0	1	1	1	1	1	1	1
157	0	0	1	0	0	0	1	1	1
158	1	1	1	1	1	1	1	1	1
159	1	1	1	1	1	0	1	1	1
160	0	0	0	1	0	0	1	1	0

```
> model=glm(Y~X1+X2+X3+X4+X5+X6+X7+X8,data=data)
```

```
> model
```

```
Call: glm(formula = Y ~ X1 + X2 + X3 + X4 + X5 + X6 + X7 + X8,
  data = data)
```

```
Coefficients:
```

```
(Intercept)      X1      X2      X3      X4      X5
-0.42047 -0.05245 -0.02561  0.32661  0.39402  0.11932
      X6      X7      X8
0.26427  0.23925  0.23093
```

```
Degrees of Freedom: 159 Total (i.e. Null); 151 Residual
```

```
Null Deviance: 39.1
```

```
Residual Deviance: 16.72 AIC: 112.7
```

```
> summary(model)
```

Call:

```
glm(formula = Score ~ X1 + X2 + X3 + X4 + X5 + X6 + X7 + X8,  
     data = data)
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-0.89738	-0.22555	-0.00699	0.25925	0.66840

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	-0.42047	0.11928	-3.525	0.000561 ***
X1	-0.05245	0.05410	-0.970	0.333840
X2	-0.02561	0.07965	-0.322	0.748220
X3	0.32661	0.06177	5.287	4.28e-07 ***
X4	0.39402	0.05719	6.889	1.42e-10 ***
X5	0.11932	0.06958	1.715	0.088420 .
X6	0.26427	0.07627	3.465	0.000690 ***
X7	0.23925	0.08608	2.779	0.006139 **
X8	0.23093	0.06360	3.631	0.000386 ***

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for gaussian family taken to be 0.1107464)

Null deviance: 39.100 on 159 degrees of freedom

Residual deviance: 16.723 on 151 degrees of freedom

AIC: 112.72

Number of Fisher Scoring iterations: 2

**Interpretation :** Here from summary of fitted model we observe that X3 , X4 , X6 , X7 & X8 contributes significantly to predict Addictiveness of a person.

### Best Fitted Model:

```
Bestmodel=glm(Y~X3+X4+X6+X7+X8,data=data)
```

Bestmodel

### Output :

```
> Bestmodel=glm(Y~X3+X4+X6+X7+X8,data=data)
```

```
> Bestmodel
```

Call: glm(formula = Y ~ X3 + X4 + X6 + X7 + X8, data = data)

Coefficients:

(Intercept)	X3	X4	X6	X7
-0.4697	0.3085	0.4078	0.2913	0.2533
	X8			
	0.2256			

Degrees of Freedom: 159 Total (i.e. Null); 154 Residual

Null Deviance: 39.1

Residual Deviance: 17.16 AIC: 110.8

> summary(Bestmodel)

Call:

glm(formula = Y ~ X3 + X4 + X6 + X7 + X8, data = data)

Deviance Residuals:

Min	1Q	Median	3Q	Max
-0.79115	-0.26005	-0.01677	0.27879	0.69950

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	-0.46969	0.09615	-4.885	2.57e-06 ***
X3	0.30849	0.06123	5.038	1.30e-06 ***
X4	0.40778	0.05471	7.454	6.11e-12 ***
X6	0.29125	0.07484	3.892	0.000148 ***
X7	0.25333	0.08552	2.962	0.003539 **
X8	0.22561	0.06369	3.543	0.000525 ***

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for gaussian family taken to be 0.1114087)

Null deviance: 39.100 on 159 degrees of freedom

Residual deviance: 17.157 on 154 degrees of freedom

AIC: 110.82

Number of Fisher Scoring iterations: 2

>



## Conclusions:

- 1) About 57.5% people are addicted to mobile.
- 2) 51.2% people spend more than 3 hours on mobile.
- 3) Mobile addiction is independent of gender, age and occupation.
- 4) Motivational video was not effective in reducing people's time on social media.
- 5) From summary of Multiple Logistic Regression Model we observe that Daily Data Use (X3), Use of mobile right after wake up in the morning (X4), Watching suggested videos (X6), Checking Mobile at Night (X7), Scrolling for short videos (Reels, status, etc.) (X8) contributes significantly to predict Addictiveness of a person.

## Reference:

For doing this project we collected the data by sending questionnaire to respondents by email. The following reference are used for analysis.

- 1) Statistical computing using R-Software – Prof. Vishwas R. Pawgi
- 2) Statistical computing using R-Software – Prof. P.G. Dixit
- 3) Symtoms of social media addiction through Google.